

ORGANOLEPTIC PROPERTIES OF SELECTED NEWLY RELEASED RICE VARIETIES OF NORTHERN TELANGANA REGION

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ABSTRACT

Organoleptic tests were conducted for evaluating the appearance, cohesiveness, tenderness on touching, tenderness on chewing, taste, aroma and overall acceptability of cooked rice. Sensory attributes like the aroma, flavor, taste, tenderness or hardness, cohesiveness, or stickiness, appearance, all influence the eating quality (Mundy et al., 1989). Sensory evaluation of two rice varieties, namely Anjana (JGL-11118) and Pradhyumna (JGL-17004) was done. 64 g of raw rice was taken for each rice variety and cooked with 1:2 ratio of water. Organoleptic test revealed that the rice variety Anjana (JGL-11118) had scored high in all sensory attributes compared to Pradhyumna (JGL-17004) rice variety. Color is one of the most important attributes of raw and cooked rice, especially, the degree of whiteness (Suwansriet al., 2002). Anjana (JGL-11118) rice variety recorded good scores for color (4.13 ± 0.74), appearance (3.73 ± 0.59), flavor (3.73 ± 0.79), taste (3.86 ± 0.63), texture (3.8 ± 0.77) and overall acceptability (4.26 ± 0.45). The color, appearance, flavor, taste, texture and overall acceptability for Pradhyumna (JGL-17004) rice variety were 2.6 ± 0.81 , 3.133 ± 0.91 , 3.06 ± 0.70 , 3.33 ± 0.61 , 2.93 ± 0.70 , 3.4 ± 0.73 respectively.

KEYWORDS: Organoleptic Tests were, Pradhyumna & Rice Variety

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INTRODUCTION

India ranks first all over the world in the area of rice cultivation with 43.97 million hectares and second rank in production of around 104.32 million tons. Rice is a staple food for almost two third of the population, it plays a vital role in the Indian economy (Anonymous, 2013). The slogan, "Rice is Life" is more appropriate for India as this crop plays a vital role in our National food security and is a means of livelihood for millions of rural households. Over 2 billion people in Asia alone derive 80 percent of their energy needs from rice, which contains 80percent carbohydrates, 7–8 percent protein, 3 percent fat and 3 percent fiber. Rice protein, though small in amount, is of high nutritional value (Chaudhary and Tran, 2001).

Cooking quality is very important for the acceptance of a variety by the consumers and is determined in terms of water uptake, volume expansion ratio, kernel length after cooking and elongation ratio. (Das et al., 2005)

MATERIALS AND METHODOLOGY

Materials

One of the newly released rice varieties viz Anjana (JGL-11118) and Pradhyumna (JGL-17004) were

procured from Regional Agricultural Research Station, Jagityal, Karimnagar.

Experimental Design

Organoleptic properties like cooking time, the weight of cooked rice, and loss of gruel were determined by standard procedure (AACC, 1995). Sensory evaluation of the samples was done by using 5 points hedonic scale (5 – Very good for 1 – Poor) (Amerine *et al.*, 1965). The two rice products viz Anjana (JGL-11118) and Pradhyumna (JGL-17004) were subjected to sensory evaluation by 15 semi-trained panel members (consisted of staff, and graduate students of the Department of Foods & Nutrition) by using a sensory evaluation scorecard at the Department of Foods & Nutrition, Post Graduate & Research Centre, PJTSAU. Panelists were provided with water and instructed to rinse and swallow water between samples.

Statistical Analysis

Mean and standard deviation for three parallel replicates was calculated. Analysis of variance (ANOVA) was used to test the difference between means. (Snedcor and Cochran, 1983)

RESULTS AND DISCUSSIONS

The Organoleptic-test was conducted for the appearance, cohesiveness and tenderness on touching, tenderness on chewing, taste, aroma, and overall acceptability of cooked rice, and evaluated by trained panels. Sensory attributes like the aroma, flavor, taste, tenderness or hardness, cohesiveness, or stickiness, appearance, all influence the eating quality (Mundy *et al.*, 1989). Sensory evaluation of two rice varieties, namely Anjana (JGL-11118) and Pradhyumna (JGL-17004) was done. 64 g of raw rice was taken for each rice variety and cooked with 1:2 ratio of water and subjected to sensory evaluation for their sensory attributes in the Foods Lab of the Department of Foods & Nutrition, Post Graduate & Research Centre, PJTSAU, Hyderabad. Sensory parameters assessed were color, appearance, flavor, taste, texture and overall acceptability using 5 points hedonic scale (5 – verygood for 1 – poor) (Amerine *et al.*, 1965). The sensory scores for color, appearance, flavor, Texture, taste and overall acceptance are shown in Table.

Table1: Sensory Evaluation of Two Newly Released rice Varieties of Northern Telangana Region

Variety name	Accession No	Color	Appearance	Flavor	Taste	Texture	Overall
Anjana	JGL-11118	4.13±0.74	3.73±0.59	3.73±0.79	3.86±0.63	3.8±0.77	4.26±0.45
Pradhyumna	JGL-17004	2.6±0.81	3.13±0.91	3.06±0.70	3.33±0.61	2.93±0.70	3.4±0.73

Note: Values are expressed as a mean± Standard deviation

From the results, it was observed that rice variety Anjana (JGL-11118) has scored high in all sensory attributes compared to Pradhyumna (JGL-17004) rice variety. Color is one of the most important attributes of raw and cooked rice, especially, the degree of whiteness (Suwansriet *et al.*, 2002). Anjana (JGL-11118) rice variety recorded good scores for color (4.13±0.74), appearance (3.73±0.59), flavor (3.73±0.79), taste (3.86±0.63), texture (3.8±0.77) and overall acceptability (4.26±0.45). The color, appearance, flavor, taste, texture and overall acceptability for Pradhyumna (JGL-17004) rice variety were 2.6±0.81, 3.133±0.91, 3.06±0.70, 3.33± 0.61, 2.93 ± 0.70, 3.4 ± 0.73 respectively. The amylose content affects the texture of rice more than physical characteristics such as gelatinization temperature and gel consistency. Rice with high amylose content is hard and dry in term of their texture compared with rice with lower amylose content (Diptiet *et al.*, 2002).

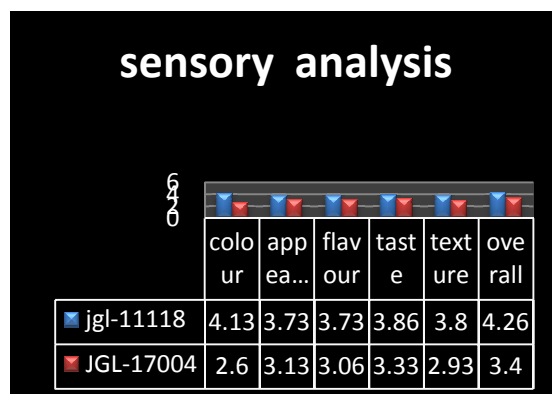


Figure 1: Sensory Evaluation of Two Newly Released Rice Varieties of Northern Telangana Region

Srisawas and Vinod (2007) examined the effects of water-to-rice ratios on sensory hardness, stickiness and fragrance. With increasing water-to- rice ratios, sensory hardness decreased and stickiness increased. The fragrance was not significantly affected by water-to-rice ratio.

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